

# REPORT ON OIL ENGINE MACHINERY.

No. 34<sup>6</sup>

AUG 26 1938

Received at London Office

Date of writing Report 24-8-1938 When handed in at Local Office 10 Port of Groningen

No. in Survey held at Waterhuizen Date, First Survey 8-6-38 Last Survey 16-8-1938  
Reg. Book. Number of Visits 13

on the Single } Screw vessel "BART" Tons { Gross 434.85  
Twin }  
Triple }  
Quadruple } Net 228.77

Built at Waterhuizen By whom built Scheepswerf Waterhuizen Yard No. 173 When built 1938

Engines made at Cologne By whom made Humboldt & Deutz motorfabrik Engine No. 491620/126 When made 1938

Donkey Boilers made at - By whom made - Boiler No. - When made -

Brake Horse Power 350 Owners J. Dekker Port belonging to Groningen

Nom. Horse Power as per Rule 81.5 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted yes

Trade for which vessel is intended sea going trade

See supplementary report No. 270.  
Type of Engines HEAVY OIL ENGINE R.V. 7 H. 345 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders 7 No. of cranks

Mean Indicated Pressure Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute 300 Flywheel dia. Weight Means of ignition Kind of fuel used

Crank Shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth Mid. length thickness Thickness parallel to axis shrunk Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted 190 mm Thrust Shaft, diameter at collars as per Rule as fitted 160 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted 140 mm Is the tube shaft fitted with a continuous liner { no }

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the

propeller boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft no If so, state type Length of Bearing in Stern Bush next to and supporting propeller 560 mm

Propeller, dia. 1750 mm Pitch 1225 mm No. of blades 4 Material Bronze whether Moveable no Total Developed Surface 1,07351 sq. feet

Method of reversing Engines directly Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced by hand

Thickness of cylinder liners 25 mm. Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water cooled

cooling If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Cooling Water Pumps, No. ONE Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Bilge Pumps worked from the Main Engines, No. ONE Diameter 100 mm Stroke 85 mm Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line No. and Size TWO OF 2 1/2" (40 Tons and 30 Tons per hour) ONE 2 1/2" Tons per hour How driven 10 B.H.P. auxiliary heavy oil engine and by main engine

Is the cooling water led to the bilges no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size one 2 1/2" rotary pump Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size capacity 80 lbs/min ad. 1400 r.p.m.

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces one 2 3/4" and three 2 1/2" In Pump Room

In Holds, &c. three a 2 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ONE 2 3/4"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces fitted from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Valves

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers none How are they protected

What pipes pass through the deep tanks Have they been tested as per Rule

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another yes Is the Shaft Tunnel watertight none Is it fitted with a watertight door worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. one No. of stages two Diameters 145/60 mm Stroke 85 mm Driven by main engine

Small Auxiliary Air Compressors, No. one No. of stages two Diameters 110/90 mm Stroke 85 mm Driven by auxiliary motor Started by hand.

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted 70 mm. No. ONE ENGINE NO 502989 Position on Port side in Engine room supplementary report No. 251

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes*

Can the internal surfaces of the receivers be examined and cleaned *yes* Is a drain fitted at the lowest part of each receiver *yes*

**High Pressure Air Receivers, No.** \_\_\_\_\_ Cubic capacity of each \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_

Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Actual \_\_\_\_\_

**Starting Air Receivers, No.** *two* Total cubic capacity *2 x 500 lbs* Internal diameter *450 mm.* thickness *12 mm.*

Seamless, lap welded or riveted longitudinal joint *lap welded* Material *S. M. steel* Range of tensile strength \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Actual \_\_\_\_\_

**IS A DONKEY BOILER FITTED?** \_\_\_\_\_ If so, is a report now forwarded? \_\_\_\_\_

Is the donkey boiler intended to be used for domestic purposes only \_\_\_\_\_

**PLANS.** Are approved plans forwarded herewith for Shafting *9-6-38* Receivers *G.O. 244-27-7-32* Separate Fuel Tanks *9-4-37*

Donkey Boilers  General Pumping Arrangements *62-4-38* Pumping Arrangements in Machinery Space *12-7-38*

Oil Fuel Burning Arrangements *12-7-38*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied \_\_\_\_\_

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building   
 { During progress of work in shops - - } \_\_\_\_\_   
 { During erection on board vessel - - } *8, 23, 28-6-38; 8, 20, 26, 27, 28-7-38; 3, 10, 11, 12, 16-8-38*   
 Total No. of visits \_\_\_\_\_

Dates of Examination of principal parts—Cylinders \_\_\_\_\_ Covers \_\_\_\_\_ Pistons \_\_\_\_\_ Rods \_\_\_\_\_ Connecting rods \_\_\_\_\_

Crank shaft \_\_\_\_\_ Flywheel shaft \_\_\_\_\_ Thrust shaft *10-8-38* Intermediate shafts *10-8-38* Tube shaft \_\_\_\_\_

Screw shaft *23-6-38* Propeller *23-6-38* Stern tube *23-6-38* Engine seatings *20-6-38* Engines holding down bolts *10-8-38*

Completion of fitting sea connections *23-6-38* Completion of pumping arrangements *16-8-38* Engines tried under working conditions *16-8-38*

Crank shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_ Flywheel shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_

Thrust shaft, Material *S. M. steel* Identification Mark *LLOYD'S N° 4541 P.F.W. 23-7-38* Intermediate shafts, Material *S. M. steel* Identification Marks *LLOYD'S N° 31 H.B. 11-7-38*

Tube shaft, Material  Identification Mark  Screw shaft, Material *S. M. steel* Identification Mark *LLOYD'S N° 51 F. 9/H.B. 13-8*

Is the flash point of the oil to be used over 150° F. *yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *no* If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case *no* If so, state name of vessel

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

*The machinery has been fitted in accordance with the approved plans and Secretary's letters*

*Machinery examined during the trial and found working satisfactory.*

*We are of opinion that this vessel is eligible for notation of +4.H.C. 8-38 oil engine*

The amount of Entry Fee .. £ \_\_\_\_\_ : When applied for, \_\_\_\_\_  
Special ... .. £ \_\_\_\_\_ : \_\_\_\_\_ 19\_\_\_\_\_  
Donkey Boiler Fee ... .. £ \_\_\_\_\_ : When received, \_\_\_\_\_  
Travelling Expenses (if any) £ *11.43* - *2/9 38*

Committee's Minute \_\_\_\_\_

Assigned \_\_\_\_\_

*+ succ. 8.38*

FRI 2 SEP 1938

*W. Williams*  
Engineer Surveyor to Lloyd's Register of Shipping.



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Certificate (if required) to be sent to \_\_\_\_\_  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)